

What is Claimed is:

Claim 1. In a process for welding a first polymeric object to a second polymeric
5 object utilizing laser radiation, wherein said first polymeric object is relatively
transparent to said laser radiation and said second object is relatively opaque to said
laser radiation, said first and second objects each presenting a faying surface, said
first object presenting an impinging surface, opposite said faying surface thereof; said
process including the steps of bringing the faying surfaces of said first and second
10 objects into physical contact so as to form a juncture therebetween and irradiating
said first and second objects with said laser radiation such that said laser radiation
impinges the impinging surface, passes through said first object and irradiates said
faying surface of said second object, causing said first and second objects to be
welded at the juncture of the faying surfaces, the improvement comprising:
15 said first polymeric object being formed from a polymeric component
 comprising: (i) poly(ethylene terephthalate); and
 (ii) one or more nucleating agents;
 said one or more nucleating agents each being characterized in the fact that
they absorb no more than 7% of their weight in water;
20 said one or more nucleating agents being present in said polymeric
component in an amount sufficient such that said polymeric component has a
crystallization half time of less than 20 minutes at a temperature of 105 °C when
measured by differential scanning calorimetry; and
 said first polymeric object exhibits, through a thickness between said faying
25 surface of said first object and said impinging surface, a diffuse transmittance of at
least 15% of said laser radiation.

Claim 2. The improvement of Claim 1 further comprising said one or more nucleating
agents being selected from the group consisting of sodium montanate, sodium
30 stearate, sodium-neutralized aliphatic carboxylic acids with 12 - 40 carbon atoms and
sodium PET.

Claim 3. The improvement of Claim 1 wherein said one or more nucleating agents
has a number average molecular weight less than about 5,000.

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Claim 4. An article of manufacture that is welded by the improved welding process of
Claim 1.

Claim 5. An article of manufacture in accordance with Claim 4 selected from the group consisting of housings, including those for electrical and electronic sensors and headlamps, pumps, motors, valves, displays, and inkjet cartridges and
5 connectors and couplings.